REMARKS

I. Status of the claims

Upon entry of this amendment, claims 1-11 are pending.

Claim 2 has been canceled without prejudice or disclaimer.

Claim 1 has been amended to incorporate the subject matter from now-canceled claim 2, specifying that the claimed moisture-curable polyurethane hot-melt adhesive further comprises an aromatic polyester polyol (CII) which has a number average molecular weight of 400 to 3,500, a glass-transition temperature of 20°C or less, and is obtained by a reaction between polyol having a low molecular weight and a side chain(s), o-phthalic acid. Support for this amendment can be found in the original specification as published (US 2007/0232764) at p. 6, paragraphs [0072] and [0073]; and in original claim 2. Thus, no new matter is added by this amendment.

Accordingly, claim 7 has been amended to change its dependency from now-canceled claim 2 to claim 1.

New claim 11 specifies that the initial adhesive strength of the claimed adhesive is within a range of 5 to 10 N/25 mm as measured by a 180° tensile test. Support for this amendment can be found in the original specification as published, at p. 12, paragraph [0147]; and at Table 4, which appears at p. 13. Thus, no new matter is added by this amendment.

All amendments herein are made without prejudice or disclaimer as to all deleted subject matter. Applicants specifically reserve the right to pursue all deleted subject matter in one or more divisional and/or continuation application.

II. Claim rejection under 35 U.S.C. § 112, second paragraph (indefiniteness)

Applicants note with thanks that the Examiner has withdrawn the rejection under 35 U.S.C. § 112.

III. Claim rejection under 35 U.S.C. § 103(a) (obviousness)

Claims 1-3 and 6-10 remain rejected as allegedly obvious over Li et al. (U.S. patent 6,221,978; "Li") in view of Takahashi et al. (JP 5-51573; "Takahashi") when taken with DYNACOLL® polyester data from Degussa®. Applicants respectfully traverse.

Claim 1 as amended incorporates the subject matter of now-canceled claim 2. More specifically, claim 1 as amended, specifies that the claimed adhesive has, in addition to a long-chain aliphatic polyester polyol (A), an aliphatic polyether polyol (B), and an aromatic polyester polyol (CI), **an aromatic polyester polyol (CII) which has a number average molecular weight of 400 to 3,500, a glass-transition temperature of 20°C or less, and which is obtained by a reaction between a polyol and o-phthalic acid**. Applicants contend that neither Li nor Takahashi, or the combination thereof, teach or suggest the aromatic polyester polyol (CII) recited in claim 1 as amended. The Examiner asserts that Li teaches and additional aromatic polyester polyol (CII) at col. 7, lines 17-20, and that it has a glass transition temperature of 0 °C (Li, col. 4, lines 23-24). However, the aromatic polyester polyol taught in Li is not the same as that recited in claim 1 as amended. Li at col. 7, lines 17-20, discloses Dynacoll® 7340. Dynacoll® 7340 is a terephthalic acid structure, and it has a melting point of 96 °C (see Product Data Sheet for Dynacoll® 7340, available at **http://www.matweb.com/search/GetMatlsByTradename.aspx?navletter=D&tn=DYNACOLL%C2%AE**, and appended hereto as Exhibit 1). One of ordinary skill in the art would understand that if a polyester polyol with such a high melting point (such as Dynacoll® 7340) is used in the claimed adhesive, the initial and final adhesive strength inherently obtained for the claimed adhesive **cannot be reached**. One of ordinary skill in the art would further understand that this is true even if the polyester polyol in question (such as Dynacoll® 7340) has a glass transition temperature less than or equal to 0 °C. Thus, the skilled artisan could not use the Dynacoll® 7340 taught in Li and reach the claimed invention. And, Takahashi does not teach or suggest the aromatic polyester polyol (CII) recited in claim 1 as amended, either, so Takahashi cannot cure this

deficiency of Li. Thus, neither Li or Takahashi teach or suggest the aromatic polyester polyol (CII) recited in claim 1, so Li and Takahashi cannot be combined to reach the claimed adhesive.

Moreover, claim 1 as amended specifies a aromatic polyester polyol (CII) that is obtained from a reaction between a polyol having and o-phthalic acid. One of ordinary skill in the art would understand that this reaction results in a aromatic polyester polyol that has a melting point that is much lower than that of the Dynacoll® 7340 taught in Li. The resulting low melting point endows the claimed adhesive with improved initial adhesive strength (between 5 to 10 N/25 mm). Thus, the Dynacoll® 7340 taught in Li cannot be the same as the aromatic polyester polyol (CII) recited in claim 1 as amended. Thus, claim 1 is not obvious over Li in view of view of Takahashi when taken with DYNACOLL® polyester data from Degussa®.

Claims 3 and 6-11 depend from claim 1 and thus incorporate all the limitations of claim 1. Accordingly, for the same reasons that claim 1 is not obvious over Li in view of view of Takahashi when taken with DYNACOLL® polyester data from Degussa®, claims 3 and 6-11 are not obvious over the combined references, either.

In addition, claim 11 is not obvious over Li in view of view of Takahashi when taken with DYNACOLL® polyester data from Degussa® for the additional reason that neither Li nor Takahashi teach or suggest any hot-melt adhesive that has the long-chain aliphatic polyester polyol (A), an aliphatic polyether polyol (B), an aromatic polyester polyol (CI), and an aromatic polyester polyol (CII), such as ingredients (A), (B), (CI) and (CII) found in the claimed adhesive, with an initial adhesive strength as measured by a 180° tensile test is within a range of 5 to 10 N/25 mm.

Thus, claims 1 (as amended), 3 and 6-11 are not obvious over Li and Takahashi (when taken with DYNACOLL® polyester data from Degussa®), and this rejection should be withdrawn.

CONCLUSION

In view of the foregoing, it is believed that remaining claims 1 and 3-11 are in condition for allowance and it is respectfully requested that the application be reconsidered and that all pending claims be allowed and the case passed to issue.

If there are any other issues remaining which the Examiner believes could be resolved through a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

Dated: March 30, 2009

Respectfully submitted,

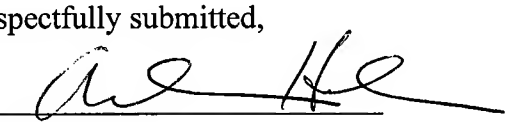
By 

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Exhibit 1

DYNACOLL® Technical Data Sheets

This page has links to all data sheets in MatWeb for the tradename DYNACOLL®.
We have several search tools, listed above, that give you more efficient methods to reach the information that you need.

DYNACOLL® has 22 material(s) in the MatWeb database.

Back to Tradename List

- Evonik Degussa DYNACOLL® 7110 Copolyester
- Evonik Degussa DYNACOLL® 7130 Copolyester
- Evonik Degussa DYNACOLL® 7131 Copolyester
- Evonik Degussa DYNACOLL® 7140 Copolyester
- Evonik Degussa DYNACOLL® 7150 Copolyester
- Evonik Degussa DYNACOLL® 7210 Copolyester
- Evonik Degussa DYNACOLL® 7230 Copolyester
- Evonik Degussa DYNACOLL® 7231 Copolyester
- Evonik Degussa DYNACOLL® 7250 Copolyester
- Evonik Degussa DYNACOLL® 7255 Copolyester
- Evonik Degussa DYNACOLL® 7320 Copolyester
- Evonik Degussa DYNACOLL® 7321 Copolyester
- Evonik Degussa DYNACOLL® 7330 Copolyester
- Evonik Degussa DYNACOLL® 7331 Copolyester
- Evonik Degussa DYNACOLL® 7340 Copolyester
- Evonik Degussa DYNACOLL® 7360 Copolyester
- Evonik Degussa DYNACOLL® 7361 Copolyester
- Evonik Degussa DYNACOLL® 7362 Copolyester
- Evonik Degussa DYNACOLL® 7365 Copolyester
- Evonik Degussa DYNACOLL® 7380 Copolyester
- Evonik Degussa DYNACOLL® 7381 Copolyester
- Evonik Degussa DYNACOLL® 7390 Copolyester

Back to Tradename List

Evonik Degussa DYNACOLL® 7340 Copolyester

Categories: Polymer; Thermoplastic; Adhesives, Sealants, and Coatings; Polyester, TP

Material Notes: DYNACOLL® 7000 products are linear copolyesters with primary hydroxyl functionality and medium molecular weight.

Our DYNACOLL® 7000 product line is designed as a building block system, allowing the tailormade production of reactive hot melts (RHM). The 7300 series is a crystalline

Vendors:

Available Properties

- Density
- Viscosity
- Molecular Weight
- Total Acid Number
- Tensile Strength, Ultimate
- Elongation at Break
- Melting Point
- Softening Point
- Glass Temperature
- Flash Point

Property Data

This page displays only the text of a material data sheet.

To see MatWeb's complete data sheet for this material (*including material property data, metal compositions, material suppliers, etc*), please click the button below.

View Data

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistant format. Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your calculations to minimize rounding error. We also ask that you refer to MatWeb's disclaimer and terms of use regarding this information. Click here to view all the property values for this datasheet as they were originally entered into MatWeb.

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Evonik Degussa DYNACOLL® 7340 Copolyester

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Vendors: No vendors are listed for this material. Please click here if you are a supplier and would like information on how to add your listing to this material.

Physical Properties	Metric	English	Comments
Density	1.19 g/cc @Temperature 23.0 °C	0.0430 lb/in³ @Temperature 73.4 °F	
Viscosity	1000 cP @Temperature 130 °C	1000 cP @Temperature 266 °F	
Molecular Weight	3500 g/mol	3500 g/mol	

Chemical Properties	Metric	English	Comments
Total Acid Number	<= 2.00	<= 2.00	[mg KOH/g]

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	30.0 MPa	4350 psi	with MDI; OH:NCO=1:2.15
Elongation at Break	700 %	700 %	with MDI; OH:NCO=1:2.15

Thermal Properties	Metric	English	Comments
Melting Point	96.0 °C	205 °F	
Softening Point	102 °C	216 °F	
Glass Temperature	-40.0 °C	-40.0 °F	
Flash Point	>= 300 °C	>= 572 °F	

Descriptive Properties	
Hydroxyl Number (mg KOH/g)	27-34

to view all the property values for this datasheet as they were originally entered into MatWeb.

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